

METHOD AND STRUCTURE FOR CONTROLLING THE  
INTERFACE ROUGHNESS OF COBALT DISILICIDE

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ABSTRACT OF THE DISCLOSURE

10 A method of producing electrical contacts having reduced  
interface roughness as well as the electrical contacts  
themselves are disclosed herein. The method of the  
present invention comprises (a) forming an alloy layer  
having the formula MX, wherein M is a metal selected from  
the group consisting of Co and Ni and X is an alloying  
15 additive, over a silicon-containing substrate; (b)  
optionally forming an optional oxygen barrier layer over  
said alloy layer; (c) annealing said alloy layer at a  
temperature sufficient to form a MXSi layer in said  
structure; (d) removing said optional oxygen barrier  
20 layer and any remaining alloy layer; and optionally (e)  
annealing said MXSi layer at a temperature sufficient to  
form a MXSi<sub>2</sub> layer in said structure.